Abstract

An injection device for a syringe, having a syringe body, a cannula with a needle, a plunger with a plunger rod, and an injection carriage for displacing the syringe body and the plunger, comprises at least one actuating element that acts on the injection carriage to carry out the injection procedure. The actuating element (120, 220, 320) cooperates with components which withdraw the needle (108, 208, 308) from the puncture site once the injection procedure has been completed, using a return stroke (H3) that is applied to the injection carriage. A single, targeted linear movement inserts the needle to a defined depth, injects the medicament and, once the injection has been completed, produces a return stroke which allows the needle to be withdrawn into the housing and thus out from the puncture site.

The injection device is advantageously equipped with additional components which produce a delay (TV) between the completion of the injection stroke (H2) and the start of the return stroke (H3).

The advantage of said delay is that the pressure that has been produced in the subcutaneous tissue by the injection of the medicament can subside before the needle is withdrawn, thus preventing to a great extent the penetration of the medicament into the insertion channel of the needle.

A volume adapter (410) can advantageously be used to predetermine the injection stroke (H2) and thus the quantity of a medicament that is administered during the course of the injection stroke (H2).